Educ.

# EDUCATIONAL RESEARCH BULLETIN: ERB

DUKE UNIVERSITY LIBRARY
APR 18 1960
DURHAM, N. C.

MARCH 9, 1960

COLLEGE OF EDUCATION
THE OHIO STATE UNIVERSITY

Vol. XXXIX, No. 3

# EDUCATIONAL RESEARCH BULLETIN

(Entered in the United States Patent Office)

R. H. ECKELBERRY.....*Editor*
SHIRLEY LIPSON.....*Assistant Editor*

PUBLISHED BY THE BUREAU OF EDUCATIONAL RESEARCH AND SERVICE, AS AN ORGAN OF THE COLLEGE OF EDUCATION, OHIO STATE UNIVERSITY, FOR THE SCHOOLS OF OHIO. EDITORIAL OFFICE, ROOM 173; BUSINESS OFFICE, ROOM 195, ARPS HALL, COLUMBUS 10, OHIO

ANNUAL SUBSCRIPTION ONE DOLLAR ($1) TO PERSONS LIVING OUTSIDE OHIO

## CONTENTS

Teaching Opportunities in 1959..... 57
HAROLD E. REYNARD AND HAZEL BROWN

The Teachers of Science in Ohio's Senior High Schools..... 65
MARJORIE GARDNER AND JOHN S. RICHARDSON

Editorial Comment..... 72

Readings ..... 76
*Mental Health and Human Relations in Education; The College Influence on Student Character; The Climate of Learning: a Constructive Attack on Complacency in Higher Education; Spotlight on the College Student; The Guidance Function in Education; New Designs in Homemaking Programs in Junior High Schools; Psychological Foundations of the Curriculum; Current Trends in the Description and Analysis of Behavior; Your Gifted Child: a Guide for Parents; Philosophy of Education.*

THE EDUCATIONAL RESEARCH BULLETIN is published monthly except during June, July, and August. Entered as Second-Class Matter, February 9, 1922, at the Post Office at Columbus, Ohio, under the Act of August 24, 1912. Accepted for mailing at specified rates of postage provided for in Section 1103, Act of October 3, 1917, authorized February 21, 1922.

# Educational Research Bulletin

MARCH 9, 1960
Vol. XXXIX, No. 3

## Teaching Opportunities in 1959

*By* HAROLD E. REYNARD AND HAZEL BROWN

*Mr. Reynard and Mrs. Brown are chairman and assistant chairman of the Division of Appointments, Bureau of Educational Research and Service.*

THE Division of Appointments has experienced continued heavy demand for all categories of educational personnel this past year. An increase of 3,789 (21 per cent) in the total number of requests for personnel in 1959 as compared with 1958 is shown in Table I. The distribution of requests for several

TABLE I

REQUESTS FOR PERSONNEL RECEIVED BY THE DIVISION OF APPOINTMENTS DURING THE PAST TEN YEARS

| YEAR | TOTAL REQUESTS FOR ALL CLASSES OF PERSONNEL | NUMBER OF REQUESTS FOR | | | |
|---|---|---|---|---|---|
| | | Elementary-School Teachers | Secondary-School Teachers | Educational Administrators | College Teachers |
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1950 | 5,196 | 1,323 | 2,100 | 177 | 1,249 |
| 1951 | 6,877 | 2,341 | 3,202 | 215 | 953 |
| 1952 | 7,828 | 2,375 | 3,515 | 220 | 1,396 |
| 1953 | 9,575 | 3,884 | 4,309 | 370 | 1,012 |
| 1954 | 9,560 | 3,407 | 4,318 | 269 | 1,283 |
| 1955 | 12,074 | 4,805 | 4,266 | 344 | 1,796 |
| 1956 | 14,614 | 4,266 | 5,745 | 471 | 1,961 |
| 1957 | 16,894 | 5,197 | 7,812 | 436 | 2,668 |
| 1958 | 17,896 | 5,864 | 8,021 | 512 | 2,778 |
| 1959 | 21,685 | 7,848 | 9,811 | 882 | 2,975 |

categories for the past decade is also presented in the table. A comparison of the number of requests received in 1950 and 1959 with the number of graduates of the College of Education in 1950 (792) and in 1959 (750) reveals the continued teacher shortage. The fourfold increase in requests for personnel during this period reflects the seriousness of the shortage.

The problem of supplying qualified teachers is not the only

consequence of the "population explosion." With new buildings and expanded enrollments, additional administrators and special service personnel are needed, especially fully qualified elementary–, junior–, and senior–high school principals. Large city school systems have been able to cope with this problem by establishing in-service cadet administrative programs, but smaller systems must depend upon the inadequate number of trained graduates provided by universities. Imaginatively conceived "crash" programs for the preparation of principals at all levels may be needed to solve this problem. Following is a list of the requests for administrative personnel received during 1959:

| Administrative Positions | Number of Calls |
|---|---|
| Superintendents or assistant superintendents | 68 |
| Public-school administrative officers (other than superintendents, principals, or executive heads) | 88 |
| Executive heads | 51 |
| Secondary-school principals or supervisors | 88 |
| Elementary-school principals or supervisors | 133 |
| College administrative officers | 384 |
| Junior–high school principals and assistant principals | 70 |
| Total | 882 |

Still another problem resulting from the increase in population is the rapidly expanding need for college teachers to help educate a larger number of public-school teachers and administrators. Although the need is critical now in several areas, it will cause even more serious problems of staffing during the next decade. Areas in which the demand for college teachers was greatest in 1959 are shown below:

| | | | |
|---|---|---|---|
| Elementary Education | 181 | Critic Teaching | 157 |
| Mathematics | 175 | English | 134 |
| Psychology | 161 | Chemistry | 124 |
| Women's Physical Education | 159 | Business Administration and Accounting | 123 |

Although much college placement is handled by individual professors and several departments, the Division of Appointments is the primary agency on the Ohio State University campus for college-teacher placement in nonprofessional areas. In view of the relatively small number of candidates available for and interested in college teaching (approximately 150), the 2,975 requests present a large, unfilled need.

THERE is also a scarcity of graduates who want to become public-school teachers. On the basis of 17,659 requests for elementary- and secondary-school teachers and only 750 graduates of the College of Education, it was not possible to satisfy more

than a small portion of the personnel needs of schools. The needs in social science and men's physical education, however, were met. Graduates with social-science majors and English minors were generally employed because of their training in English. Throughout the United States the supply of teachers available for positions in men's physical education seemed adequate.

Requests for public-school teachers in the various teaching areas and combinations of areas are shown in Table II. A brief explanation of this table may help in interpretation of the data. The first column lists the teaching fields in which requests were received; the second gives the total number of calls for teachers of each subject as a major instructional area; and the third shows the number of requests for teachers of one subject only. Column 4 indicates the number of calls requiring the teaching of two or more subjects, and Columns 5, 6, 7, and 8 show the minor fields requested most often with each major. In the last four columns, the abbreviation *Comb.* is used to indicate any unspecified subject-field combination.

The large demand for English teachers reflects both the bulge in secondary-school populations and curriculum changes in many schools which have resulted in the addition of English courses. The 1,394 requests last year represent an increase of 65 per cent over the number received in 1958. Other areas in which the demand far exceeded the supply are: mathematics—882; science—849 (particularly general science—461); music—561; special education—509; women's physical education—440; and home economics—435.

Considering the large number of requests received by the Division of Appointments, there is little optimism concerning the possibility of meeting the demands for elementary-school teachers. The University's supply of elementary-school teachers —272 in 1959—tends to be almost imperceptible in light of the total requests—7,848. Figures shown in Table II do not present a completely accurate picture of the demand for teachers. Vacancies in many school systems not located near large metropolitan areas often are not reported to placement officers. Only a few Ohio State graduates choose schools not near a metropolitan area.

ACCOMPANYING the increase in requests for personnel was an increase in the number of students graduated by the College of Education. Since 1954 there has been slow but significant progress in the number of graduates certificated and placed in

## TABLE II

ANALYSIS OF PUBLIC-SCHOOL TEACHING CALLS RECEIVED BY THE DIVISION OF APPOINTMENTS FOR THE YEAR 1959

| SUBJECT OR TEACHING FIELD* | NUMBER OF CALLS IN 1959‡ | | | NUMBER OF TIMES OTHER SPECIFIC SUBJECTS WERE CALLED FOR IN COMBINATION WITH THE SUBJECT CONSIDERED§ | | | |
|---|---|---|---|---|---|---|---|
| | Total | As a Single Subject | Combined with Other Subjects | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Arts— | | | | | | | |
| Fine Arts (FA) | 313 | 289 | 24 | Eng 5 | HE 4 | IA 4 | Mu 3 |
| Industrial Arts (IA) | 405 | 337 | 68 | MPE 22 | Dr Ed 15 | Ma 14 | Sc 7 |
| Business Education (BE) | 360 | 317 | 43 | Ma 11 | Eng 9 | SS 7 | WPE 4 |
| Distributive Education (DE) | 6 | 6 | ..... | ..... | ..... | ..... | ..... |
| Core | 178 | 178 | ..... | ..... | ..... | ..... | ..... |
| Driver Education (Dr Ed) | 22 | 11 | 11 | SS 2 | ..... | ..... | ..... |
| English (Eng) | 1,394 | 844 | 550 | SS 155 | Sp 66 | Dr 46 | La 43 |
| Dramatics (Dr) | 8 | 3 | 5 | Sp 3 | Eng 2 | ..... | ..... |
| Speech (Sp) | 44 | 16 | 28 | Eng 13 | Dr 11 | Jo 2 | ..... |
| Journalism (Jo) | 10 | 8 | 2 | ..... | ..... | ..... | ..... |
| Home Economics (HE) | 435 | 388 | 47 | WPE 17 | Eng 10 | Gen Sc 9 | Ma 3 |
| Languages (Lang)— | | | | | | | |
| French (Fr) | 157 | 43 | 114 | S 44 | Eng 33 | La 15 | Ger 10 |
| German (Ger) | 49 | 28 | 21 | Eng 8 | Fr 5 | S 3 | Ma 1 |
| Latin (La) | 124 | 19 | 105 | Eng 41 | Fr 21 | S 21 | Ger 12 |
| Spanish (S) | 186 | 74 | 112 | Eng 47 | Fr 23 | La 15 | SS 4 |
| Russian | 10 | 6 | 4 | S 2 | Eng 1 | Comb 1 | ..... |
| Total† | *526* | *170* | *356* | ..... | ..... | ..... | ..... |
| Library (Li) | 192 | 175 | 17 | Eng 7 | Comb 3 | ..... | ..... |
| Mathematics (Ma) | 882 | 688 | 194 | Sc 118 | PS 26 | SS 17 | IA 10 |
| Music (Mu) | 561 | 531 | 30 | Eng 13 | FA 8 | Ma 3 | ..... |
| Personnel & Guidance (P&G) | 280 | 244 | 36 | Comb 7 | La 4 | ..... | ..... |
| Psychology (Psy) | 139 | 135 | 4 | P&G 3 | Pol Sc 1 | ..... | ..... |
| Physical Education (PE)— | | | | | | | |
| Men | 420 | 143 | 277 | Gen Sc 58 | SS 54 | Ma 32 | Eng 30 |
| Women | 440 | 370 | 70 | Eng 17 | Hlth 14 | SS 7 | Ma 5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Women | 440 | 370 | 70 | Eng 17 | Hlth 14 | SS 7 | Ma 5 |



TABLE II [*Continued*]

| Subject or Teaching Field* | Number of Calls in 1959‡ | | | Number of Times Other Specific Subjects Were Called for in Combination with the Subject Considered§ | | | |
|---|---|---|---|---|---|---|---|
| | Total | As a Single Subject | Combined with Other Subjects | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Science (Sc)— | | | | | | | |
| Comprehensive Science (Comp Sc) | 3 | 3 | ..... | ..... | ..... | ..... | ..... |
| Biology (Bi) | 83 | 50 | 33 | Gen Sc 16 | Chem 4 | Ma 3 | PS 3 |
| Chemistry (Ch) | 137 | 47 | 90 | Phy 49 | Ma 16 | Gen Sc 12 | Bio 8 |
| General Science (GS) | 461 | 302 | 159 | Ma 88 | Bio 22 | Chem 9 | PS 8 |
| Physical Science (PS) | 98 | 68 | 30 | Ma 12 | Gen Sc 12 | Bio 2 | Chem 2 |
| Physics (Phy) | 67 | 34 | 33 | Chem 15 | Gen Sc 7 | Ma 6 | ..... |
| Total† | *849* | *504* | *345* | ..... | ..... | ..... | ..... |
| Social Studies (SS) | 387 | 199 | 188 | Eng 97 | Ma 7 | Bio 4 | Econ 3 |
| History (His) | 63 | 39 | 24 | Eng 6 | Sc 4 | Ma 3 | ..... |
| Geography (Geo) | 14 | 6 | 8 | Gen Sci 4 | MPE 4 | ..... | ..... |
| Special Education (SE) | 509 | 509 | ..... | ..... | ..... | ..... | ..... |
| Speech and Hearing Therapy (Sp & HT) | 202 | 202 | ..... | ..... | ..... | ..... | ..... |
| Junior and Senior High School | 949 | 949 | ..... | ..... | ..... | ..... | ..... |
| Elementary School (Elem) | 7,848 | 7,848 | ..... | ..... | ..... | ..... | ..... |
| Total | 17,436 | 15,109 | 2,327 | ..... | ..... | ..... | ..... |

* In the parentheses after each subject is given the abbreviation used in Columns 5–8.

† When the calls for the subgroups for languages and for sciences are added together, the totals are set in italics and given in Column 2, but they are not included in the final total figure.

‡ Foreign and miscellaneous calls are not included in this table.

§ Columns 5–8 show additional subjects listed on calls in Column 4. The totals of Columns 5–8 are not necessarily equivalent to the total in Column 4; the specific subjects in Columns 5–8 are the most frequent combinations.

teaching positions. Table III shows a distribution of the graduates available for teaching during the last five years.

During each of these years fewer graduates have entered military service. Unfortunately these gains have been more than

TABLE III

NUMBER OF GRADUATES OF THE COLLEGE OF EDUCATION AND NUMBER PLACED IN TEACHING POSITIONS EACH YEAR FROM 1955 TO 1959

| | YEAR OF GRADUATION | | | | | PERCENTAGE OF DIFFERENCE FROM 1955 TO 1959 |
|---|---|---|---|---|---|---|
| | 1955 | 1956 | 1957 | 1958 | 1959 | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Graduates ..... | 511 | 610 | 646 | 724 | 750 | +46.7 |
| Granted Non-Teaching Degrees.. | 117 | 113 | 100 | 98 | 95 | —18.8 |
| Certified to Teach... | 294 | 497 | 546 | 626 | 655 | +66.2 |
| Available to Teach... | 276 | 365 | 410 | 463 | 476 | +72.4 |
| Placed in Teaching Positions ..... | 276 | 364 | 409 | 463 | 475 | +72.1 |

TABLE IV

THE NUMBER OF GRADUATES WHO GIVE THE LISTED REASONS FOR NOT BEING AVAILABLE FOR TEACHING POSITIONS FROM 1955 TO 1959

| REASONS FOR NOT TEACHING | YEAR OF GRADUATION | | | | | PERCENTAGE OF DIFFERENCE FROM 1955 TO 1959 |
|---|---|---|---|---|---|---|
| | 1955 | 1956 | 1957 | 1958 | 1959 | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Graduate Study..... | 12 | 27 | 21 | 31 | 34 | +183.3 |
| Military Service..... | 38 | 33 | 32 | 29 | 22 | — 42.1 |
| Marriage ..... | 20 | 37 | 42 | 34 | 62 | +210.0 |
| Other Employment.. | 14 | 27 | 40 | 50 | 51 | +264.3 |
| Specific Location Required ..... | 28 | 7 | 1 | 15 | 7 | — 75.0 |
| Other Reasons..... | 2 | 1 | 0 | 2 | 2 | 0.0 |
| No Data..... | 4 | 0 | 0 | 2 | 1 | — 75.0 |

offset by the number of graduates who do not enter the teaching field immediately because of marriage or the selection of other employment. A summary of the reasons given by graduates, certificated for teaching, who were not available to accept teaching positions during the five-year period from 1955 to 1959 is

presented in Table IV. Marriage, military service, and acceptance of employment outside of the profession prevented 135 students from entering the teaching field in 1959.

A distribution of the graduates in relation to their major areas of preparation and the number desiring to teach in each area for 1958 and 1959 is presented in Table V. Limitations in placement were encountered with a few graduates who were unable or unwilling to accept positions in any but one or two specific geographic areas.

SINCE 1955 the median salary for beginning public-school teachers placed by the Division has increased $850—from $3,350 in 1955 to $4,200 in 1959. Median salaries paid to inexperienced graduates for the years 1955 to 1959 are shown below:

| | | | |
|---|---|---|---|
| 1955 | $3,350 | 1958 | $4,000 |
| 1956 | $3,600 | 1959 | $4,200 |
| 1957 | $3,825 | | |

Beginning teachers' salaries in 1959 ranged from $3,600 to $5,200. School administrators placed by this office received beginning salaries from $7,000 to $18,000. Most significant among the increases in salaries in public schools were those paid to high-school principals. Inexperienced high-school principals' salaries ranged from $7,000 to $8,000; persons with experience were employed for salaries from $7,500 to $11,500.

An increasing willingness on the part of college officials to employ top-flight candidates with only the Master's degree was evident this past year. Salaries for college and university personnel ranged from $4,500 upward for beginning instructors with the Master's degree to $6,700 for beginning assistant professors with the Ph.D. degree. Salaries of department heads and deans ranged from $7,500 to $12,000. Competition for professional personnel has helped account for the small rise since 1957 in the annual salaries paid to beginning college teachers.

Interviews with 2,159 students, faculty members, alumni, and employing officials were held by the two members of the professional staff in the Division of Appointments. The professional staff also provided information concerning opportunities in various teaching fields to numerous classes of pre-service students and to alumni wishing to move or to pursue graduate study, and they provided employers with information on salary trends and supply and demand for teachers of various subjects. Some time each year is devoted to visiting Ohio schools and communities to obtain

## TABLE V

THE NUMBER OF MAJORS IN EACH FIELD, THE NUMBER INTERESTED IN TEACHING, AND THE PERCENTAGES SECURING POSITIONS

| TEACHING FIELD | NUMBER OF MAJORS IN 1958* | TEACHING POSITIONS IN 1958 | | NUMBER OF MAJORS IN 1959* | TEACHING POSITIONS IN 1959 | |
|---|---|---|---|---|---|---|
| | | Number Desiring | Percentage Placed† | | Number Desiring | Percentage Placed† |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Arts— | | | | | | |
| Fine ..... | 21 | 15 | 100 | 16 | 12 | 100 |
| Industrial .... | 21 | 17 | 100 | 18 | 16 | 100 |
| Business Education | 22 | 12 | 100 | 14 | 9 | 100 |
| Distributive Education .. | 0 | ..... | ..... | 4 | 3 | 100 |
| Elementary Education .... | 241 | 208 | 100 | 272 | 217 | 98.5 |
| English ..... | 22 | 19 | 100 | 33 | 26 | 100 |
| Speech ..... | 10 | 6 | 100 | 12 | 8 | 100 |
| Radio-Speech .. | 7 | 3 | 100 | 1 | 0 | ..... |
| Speech and Hearing Therapy . | 20 | 15 | 100 | 8 | 6 | 100 |
| Home Economics | 61 | 43 | 100 | 71‡ | 45 | 100 |
| Languages— | | | | | | |
| French ..... | 2 | 2 | 100 | 5 | 5 | 100 |
| German ..... | 2 | 1 | 100 | 2 | 1 | 100 |
| Spanish ..... | 6 | 5 | 100 | 11 | 10 | 100 |
| Latin ..... | 1 | 0 | ..... | 1 | 1 | 100 |
| Mathematics .... | 15 | 11 | 100 | 28 | 18 | 100 |
| Music ..... | 46 | 25 | 100 | 45 | 31 | 100 |
| Physical Education— | | | | | | |
| Women..... | 18 | 12 | 100 | 17 | 13 | 100 |
| Men..... | 36 | 23 | 100 | 46 | 29 | 100 |
| Psychology ..... | 4 | 2 | 100 | 1 | 1 | 100 |
| Science— | | | | | | |
| Biology ..... | 35 | 23 | 100 | 23 | 14 | 100 |
| Chemistry .... | 3 | 0 | ..... | 4 | 3 | 100 |
| Chem.-Physics . | 1 | 0 | ..... | 2 | 1 | 100 |
| General Science | 3 | 2 | 100 | 1 | 1 | 100 |
| Comp. Science . | 9 | 8 | 100 | 14 | 11 | 100 |
| Physics ..... | 5 | 0 | ..... | 1 | 0 | ..... |
| Social Studies— | 63 | 41 | 100 | 58 | 33 | 100 |
| History ..... | 28 | 23 | 100 | 35 | 21 | 100 |
| Geography .... | 1 | 1 | 100 | 0 | ..... | ..... |
| Sociology ..... | 1 | 1 | 100 | 0 | ..... | ..... |
| Special Education | 5 | 5 | 100 | 0 | ..... | ..... |

* Double majors are counted in each field.

† Based on the number desiring to teach.

‡ This number includes not only graduates holding the degree B.S. in Education, but also the 70 vocational home-economics graduates of the College of Agriculture and Home Economics who registered with the Divison of Appointments.

information about the school system, its administration, and the community. This is vital in improving placement services.

[*Continued on page 84*]

# The Teachers of Science in Ohio's Senior High Schools

*By* MARJORIE GARDNER AND JOHN S. RICHARDSON

*Mrs. Gardner is an instructor and Mr. Richardson, a professor, in the Department of Education.*

DURING the past few years, Americans have developed a new understanding of the extent to which the nation's strength and security depend upon its manpower resources, that is, upon the skills, capacities, and creativeness of its people. The greatest stress currently is on scientific and technological accomplishment.

Manpower studies point with alarm to the persistent shortages of scientists, professional workers, and other highly trained technical personnel. According to Helen H. Miller, "the American population is doubling every fifty years, the need for skilled workers is doubling every twenty years, and the need for highly trained scientists and engineers is doubling every ten years."[1]

These studies also reveal the pathetic waste of human abilities that is common today. Cole reports an appalling annual total of approximately two hundred thousand young people with college ability who terminate their education upon graduation from high school. Apparently between sixty thousand and one hundred thousand of these graduates with aptitude for and interest in college fail to continue their education for financial reasons. The rest, with similar ability, lack the interest or motivation for higher education. Presumably about one-fourth of these two hundred thousand able persons have interests and aptitudes that would serve them well in scientific careers. Many, however, are lost to the scientific professions because they have not been stimulated or guided into taking college-preparatory programs that include a minimum number of courses in mathematics and science.[2]

Parental influence and peer pressures are important factors in career choices and academic success or failure. But the agency basically responsible for both encouraging scientific talent and producing the nation's scientists is the school. There the teacher

[1] "Science: Careers for Women," *Atlantic*, CC (October, 1957), p. 123.

[2] Cole, Charles C., Jr. *Encouraging Scientific Talent: a Study of America's Able Students Who Are Lost to College and Ways of Attracting them to College and Science Careers.* New York: College Entrance Examination Board, 1956, p. 184.

has the opportunity to stimulate the talented and to help all students develop a fundamental understanding of the world in which they live.

Programs characterized by strong intellectual challenge, competent instruction, and high standards can be potent stimulants to scientific careers, while inadequate curriculums and uninspired or poorly trained teachers often discourage potential scientists. In their study, *Origins of American Scientists,* Robert Knapp and H. B. Goodrich find that the popularity and the effectiveness of a science faculty have a direct influence on the student's interest in science.[3]

A good teacher can be particularly effective at the high-school level, for the teenage student responds readily to challenge. Cole cites a 1954 report which stated that about 60 per cent of a sample of outstanding scientists had made the decision while in high school to pursue scientific or engineering careers. Some educators believe that between 60 and 70 per cent of those now earning advanced degrees in science made their vocational choices before entering college.[4]

Despite the importance of the high-school science program, the shortage of well-trained teachers is serious. With increasing enrollments the plight is becoming steadily worse. According to a report of the Bureau of Labor Statistics, during the five years 1950–55, there was a 56-per cent decrease in the number of teachers certified to teach science in the secondary school; in physics the decrease was 75 per cent. In the fall of 1954, it was estimated that more than one hundred thousand high-school students were enrolled in mathematics and science classes taught by inadequately prepared teachers.[5]

In an effort to discover the needed remedial measures, it is important to examine the critical factors in the situation. Answers to such questions as the following are necessary: Do we have enough teachers? How long have they taught—is the turnover very high, leading to short periods of service, or is science taught predominantly by older teachers? What degrees do these teachers hold, and what kind of academic preparation do these degrees represent? With patterns of employment changing, what is the potential for improving science teaching by using the talents of more women?

[3] Chicago: University of Chicago Press, 1952.
[4] *Op. cit.,* p. 20.
[5] *Ibid.,* p. 128.

INFORMATION on these and other factors in science teaching in Ohio was obtained by a study of the science teachers of this state in Grades X, XI, and XII of the public schools.[6] The study was based on the annual reports of the principals for the school year 1957–58 on file in the State Department of Education of Ohio. Data on 2,222 teachers of science in Grades X–XII were collected. These teachers were employed in 965 schools in which the senior-high school student enrollments ranged from fewer than ten to more than two thousand pupils. County, city, and exempted-village schools were all included. Most of the information presented here deals with teachers of the three sciences—physics, chemistry, and biology. Other science course offerings were varied and intermittent.

Almost as many teachers were employed in teaching biology courses as there were in chemistry and physics combined. Throughout the state 1,261 taught biology, 915 chemistry, and only 514 physics. It is startling to note the comparison between the total number of schools in the study (965) and the number of teachers who taught physics (514). Since, with rare exceptions, physics is taught by only one person in a school, approximately one-half of all the high schools in Ohio were not able to offer a physics course to their students in the 1957–58 school year. Some of the schools used an old but unsatisfactory remedy for this situation—the practice of teaching chemistry and physics in alternate years.

Further information taken from the annual reports of the principals identified twenty-six persons as full-time physics teachers. Only twenty-six teachers in the nation's fifth most populous state could concentrate their interests and efforts in teaching physics. Twenty-five of these full-time physics teachers were located in the city schools, and one was employed in a county school. Of the 915 chemistry teachers, only 90 taught the subject full-time. Two hundred fifty-seven persons were full-time biology teachers.

The teaching combinations reveal wide diversity. The assignments of full-time science teachers ranged from one science course up to five different science courses each day. Part-time science teachers' programs ranged from science plus one other course to as many as five different courses outside the science area.

[6] *See* Marjorie Hyer Gardner and John S. Davis, "The Preparation and Teaching Assignments of Senior High School Science Teachers in Ohio," 1958 (a Master's thesis on file in the library of Ohio State University).

The teaching experience of those in the study varied considerably, as the following information shows:

| Years of Experience | Per Cent of Teachers |
|---|---|
| 0 | 9 |
| 1–10 | 48 |
| 11–20 | 14 |
| 21–30 | 16 |
| 31–40 | 11 |
| Over 40 | 2 |

Experience ranged from none for 202 beginning teachers (9 per cent) to more than 40 years of teaching service for 42 persons (2 per cent). The mode for teaching experience is in the 1–10 year bracket (48 per cent). The mean years of experience for men was 13.2; for women it was 14.3.

The salary picture is a significant factor in the shortage of adequately prepared science teachers in the schools. The annual income from teaching is not enough to allow a family a decent standard of living in view of today's high costs. Following is the range of salaries for the teachers in the study:

| Salaries | Per Cent of Teachers |
|---|---|
| Below $3,600 | 6 |
| 3,601–4,200 | 23 |
| 4,201–4,800 | 25 |
| 4,801–5,400 | 17 |
| 5,401–6,000 | 14 |
| 6,001–6,600 | 10 |
| Over 6,600 | 5 |

Almost 6 per cent had an income below $3,600; only about 15 per cent had an income above $6,000. Most of those with salaries above $6,000 combined administrative chores with teaching duties.

Despite the fact that women averaged slightly higher than men in years of teaching experience, men received a higher average income. The average salary for men was $4,980, and for women it was $4,759. The over-all average salary for science teachers was about $4,900 in 1957–58. This was below the state average for all high-school teachers—$5,017.[7] A paradoxical situation is evident. In science education where serious shortages of trained personnel exist, annual incomes are below those of teachers in other less critical areas. The economic laws of supply and demand are apparently inoperative here.

[7] Rich, Glenn A. Introduction to "A Survey of Teachers' Salaries in Ohio, School Year 1957–1958." Columbus, Ohio: State Department of Education, April, 1958. (Mimeographed).

ONLY 29, or just over 1 per cent, of the science teachers did not have at least a Bachelor's degree. The remaining 2,193 teachers had earned Bachelor's and Master's degrees and, in a few cases, doctorates. For 63 per cent, the Bachelor's was the highest degree, but more than half of these teachers had completed additional work toward the Master's. Master's degrees had been earned by more than 35 per cent of the teachers and doctorates by only very few—8 persons, or less than .5 per cent. Thus more than one-third of the science teachers hold Master's degrees, and more than two-thirds have done some work beyond the Bachelor's.

Despite these encouraging figures, the evidence indicates that there are still inadequately prepared teachers in science classrooms. Table I presents information on the academic preparation of teachers in the study. Only the teachers for whom specific credit-hour data could be obtained were included in the tabulations. Of these, 1,143 taught biology, 603 chemistry, and 311 physics.

TABLE I

TEACHERS' ACADEMIC PREPARATION IN SCIENCE

| Semester Hours in Teaching Area | Teachers of Biology (Per Cent) | Teachers of Chemistry (Per Cent) | Teachers of Physics (Per Cent) |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| 0..... | 5.07 | 6.63 | 9.58 |
| 1–14..... | 8.92 | 21.89 | 41.85 |
| 15–30..... | 44.44 | 46.27 | 33.55 |
| Over 30..... | 41.57 | 25.21 | 15.02 |

As a group the biology teachers are better prepared than the teachers of physical sciences. The most alarming situation is evident in physics where more than 51 per cent of the teachers have fewer than fifteen semester hours of physics credit, the minimum required for state certification. Most of these persons are fully certificated in other academic areas and are assigned a physics class as a sideline. If the preparation for a teaching major is considered as thirty semester hours, only about 15 per cent of those who teach physics in Ohio are academically prepared. In the smaller county schools the figure is a low 8 per cent.

Among chemistry and biology teachers, the situation is similar but somewhat less critical. In chemistry 28 per cent of the teachers have fewer than the fifteen semester hours required for certification; 75 per cent have fewer than thirty semester hours.

Of the biology teachers only 14 per cent have fewer than fifteen semester hours; 58 per cent have less than thirty hours. Thus neither in biology, nor in chemistry, nor in physics do the majority of high-school teachers have the desirable academic background for their teaching area.

Table II is a composite which facilitates comparisons of the teachers in the three science areas in terms of experience, salary,

TABLE II

COMPARATIVE DATA FOR TEACHERS IN THREE SCIENCE AREAS

| Item | Teachers of Biology | Teachers of Chemistry | Teachers of Physics |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| Experience | 11.9 years | 14.1 years | 15.3 years |
| Salary | $4,839 | $4,862 | $5,072 |
| Professional-education credits | 33 semester hours | 34.5 semester hours | 36.3 semester hours |
| All science credits | 42.2 semester hours | 49 semester hours | 48.7 semester hours |
| Physical-science credits | ..... | 30.6 semester hours | 33.2 semester hours |
| Academic credits in specific teaching area | 29.6 semester hours | 22.8 semester hours | 16.6 semester hours |

professional-education credits, and science credits. All figures are expressed as averages calculated from the detailed data available in the principals' annual reports.

The physics teachers are the most experienced and the highest salaried group, despite the fact that they have the least academic preparation in their teaching area. Biology teachers, who as a group are best prepared academically, have the least experience and the lowest annual income. The chemistry teachers are the middle group in all categories.

The average total-science preparation is higher for teachers of all subjects than their preparation in professional education. However, in each of the separate sciences the reverse is true: professional-education credits exceed the credits in biology, in chemistry, and in physics. The typical professional training includes approximately six semester hours of credit for student teaching. The total number of hours for professional courses is correspondingly reduced.

Although more than 80 per cent of the teachers in America today are women, very few of these are teaching in the science area; the present study bears this out. In Ohio's senior high schools only 20 per cent of the biology teachers, 11 per cent of the

chemistry teachers, and 5 per cent of the physics teachers are women. In view of the shortage of adequately prepared science teachers, it would seem wise for high-school guidance services to inform girls of the opportunities that exist for them in science and science education. A more equitable distribution of talents seems in order—a few more women in the science-teaching areas and more men in areas, such as the elementary school, which have traditionally belonged to women.

THE situation in science education in Ohio is probably similar to that which exists elsewhere in the nation. Although education is normally a matter for state legislation, certain issues transcend such boundaries and become common concerns.

It is alarming that in this age, characterized by atomic energy and space exploration, physics, which is fundamental to an understanding of these modern processes for every student and to the development of a special interest for the scientifically talented student, is the most neglected science. Can we, as a nation seeking to maintain security and prestige in the world community, continue to gamble on severe shortages of adequately trained scientific personnel?

The remedies are neither simple nor short-term. But if science education is to be improved, the public must be awakened to the importance and the potentialities of secondary-school science for both the average student and the academically talented. Also essential are well-equipped science departments strongly staffed by teachers attracted not only by their love of teaching but also by alluring incomes and social status.

Strong support must be forthcoming at all levels—national, state, and local. The Federal government is already making several efforts through two major divisions, the National Science Foundation and the Office of Education. Many states are attempting to increase salaries, improve the preparation of teachers, and lighten their loads. Hundreds of local communities have moved in many ways to improve the teaching of science in their schools. There has been support also from professional and scientific societies, from institutions that prepare teachers, and from business and industry. In the final analysis, however, science teachers themselves have a heavy responsibility, not only for the education of their pupils but for their own level of preparation and performance as well.

•

# EDITORIAL COMMENT

## Ill-Advised Recommendations

CERTAIN recommendations concerning changes in the Ohio program of teacher education and certification that were made by the Ohio Education Association at the meeting of its Representative Assembly on December 3–5 are noteworthy —but not for their wisdom. In order to appreciate their significance, one needs to understand some of the essential characteristics of the Ohio program.

Most of the features of the Ohio plan have been in force for many years, with minor changes from time to time. The state issues three grades of standard teaching certificates: provisional, professional, and permanent. All of these (except in certain special fields, such as trade and industrial education) require completion of an approved course of study leading to a Bachelor's degree from an approved institution, plus varying amounts of additional training and successful teaching experience. In addition to the standard certificates, the state issues a substandard temporary certificate. It is granted only in an emergency, that is, when a properly qualified teacher is not available for a given position. Requirements for this certificate are published annually; they tend to vary according to the seriousness of the shortages of qualified teachers in the different teaching areas.

Newer than the certificates listed above is the cadet certificate for elementary-school teachers, which is granted to persons completing a two-year training program. The cadet program was developed in connection with the scholarship plan established by the One-Hundredth General Assembly, which became effective on October 30, 1953.[1] This plan provided for scholarships of $500 a year for two years to selected persons preparing for elementary-school teaching positions in Ohio. The purpose of the scholarship law and the cadet teacher-training plan was to help meet the serious shortage of elementary-school teachers that had developed during the war and postwar years. The scholarship plan has been discontinued, but the cadet plan remains in effect.

[1] Ohio Laws, CXXV, pp. 809–11.

Under this program a person who completes a two-year course of study (not less than sixty-two semester hours) in general and professional education that meets the standards established by the State Board of Education may receive a cadet elementary-teaching certificate, valid for four years. This certificate may be renewed for successive periods of four years on completion of twenty-four semester hours of approved additional training for each renewal until the Bachelor's degree has been obtained. With his degree the teacher receives the provisional (standard) elementary certificate.

Typically, persons working under the cadet program attend college for two academic years, secure cadet certificates, and take positions as elementary-school teachers. Through study in extension courses, Saturday and evening classes, and summer terms, they continue their college education so as to qualify for the certificate renewal and, in many cases, eventually for the Bachelor's degree and the standard certificate.

There is no doubt that the scholarship program (now discontinued) and the cadet program have helped materially in meeting the shortage of elementary-school teachers by attracting a considerable number of capable persons into the profession and getting them into the classroom quickly. The cadet program has also encouraged quite a few persons who were teaching on temporary certificates to continue their college education and thus qualify for standard certification. There is a substantial body of evidence indicating that, generally speaking, persons teaching under cadet certificates have received good ratings from their superintendents. No one would deny that the person holding a cadet certificate is likely to be better trained than one who holds a temporary certificate.

It is against this background that the action of the Ohio Education Association is to be considered. At the December meeting of the Representative Assembly, with the approval of the Association's Commission on Teacher Education and Professional Standards (TEPS), the Resolutions Committee offered the following resolution: "The Association urges that the State Department of Education take steps to terminate admissions to cadet training programs for elementary teachers beginning January 1, 1964." This resolution was amended on the floor by substituting

"1961" for "1964," and adopted. By action initiated from the floor, a second resolution was adopted:

*Degree Requirements*—We propose that beginning January 1, 1964, the only teachers' certificates granted be to individuals with a minimum of a bachelor's degree and the proper professional credits as required by the Ohio State Department of Education.[2]

Thus the O.E.A. would discontinue admissions to the cadet program after the present calendar year and require a Bachelor's degree as a minimum for *all* certificates issued after 1963.

By amending the first and adopting the second of the resolutions quoted above, the Association went well beyond the recommendations of the TEPS Commission. Data compiled by the Commission seemed to indicate that fewer additional elementary-school teachers will be needed in the next few years, while the annual number of college graduates holding elementary-school certificates will continue to increase. Hence, the Commission believes that the gap between the number of positions in the elementary schools and the number of certificated teachers available will gradually close.

At its meeting on January 11, the State Board of Education directed the staff of the Department of Education to study the two O.E.A. resolutions and report its findings to the Board. The report was submitted to the Board on February 8. It points out facts that clearly render untenable the position represented by the first resolution. Under the sections of the Ohio Revised Code governing administrative procedures in general and the issuance of teachers' certificates in particular, it would be impossible to discontinue the cadet program before January 1, 1962 (instead of January 1, 1961, as called for in the resolution).[3] Other facts presented in the report show that, even if it were legally possible to discontinue the cadet program by January 1, 1961, it would be unwise to do so. At this time, elementary-school enrollment in the state is increasing 4 per cent a year while the supply of new elementary-school teachers is increasing by 2.3 per cent. Ohio colleges last year prepared 4,279 new elementary-school teachers,

[2] "Representative Assembly Orders Expansion of OEA Program for Teachers and School," *Ohio Schools*, XXXVIII (January, 1960), p. 9; letter from B. I. Griffith, director of public relations for the O.E.A., January 20, 1960.

[3] "Report and Recommendations of the Superintendent of Public Instruction to the State Board of Education of Ohio, February 8, 1960," p. 23. (Mimeographed).

of whom 2,792 had completed a degree program and 1,487 the cadet program. "To terminate the Cadet Program at this time would therefore deprive the schools of approximately 1,500 teachers annually." Some 1,200 new teachers holding degrees and 400 holding cadet certificates were prepared outside the state. In addition to using these sources of supply, it was necessary to issue 3,932 temporary elementary-school certificates in order to staff the schools this year.[4] Obviously, discontinuing the cadet program would mean a large increase in temporary certificates, the least desirable kind.

Having thus shown the impracticability of the first O.E.A. resolution, the report proceeds to demolish even more completely any argument for the second. After pointing out that the facts cited as bearing on the first resolution are also applicable to the second, the report continues:

> In addition, adoption of this proposal would make it impossible to continue to certificate 158 Trade and Industrial teachers for whom the degree is not currently required, and is not deemed necessary. It would also make impossible the continued certification of approximately 1200 teachers currently employed in the Adult Education Program. Adoption of this proposal would also have the effect of nullifying the elastic clause (Section 3319.28) of the Certification Code. It is this section which permits us to cope with any emergency situation in staffing the classrooms.[5]

In accordance with these and other facts presented in the report, the Board properly declined to make any changes in certification requirements at this time. It would have been folly to do otherwise. We have seldom known any action of a supposedly responsible professional organization that was more ill-advised than that of the O.E.A. Representative Assembly. Let us hope that the Association learns from this experience and avoids such thoughtless actions in the future.[6]

R. H. E.

[4] *Ibid.*, pp. 23–24.

[5] *Ibid.*, p. 24.

[6] The writer is indebted to the following persons for help in the preparation of this editorial: L. O. Andrews, of Ohio State University; B. I. Griffith, of the Ohio Education Association staff; and A. C. May, of the State Department of Education. They are, of course, not responsible for the views expressed here or for any factual errors.

# READINGS

## *Books to Read*

KAPLAN, LOUIS. *Mental Health and Human Relations in Education.* New York: Harper and Brothers, 1959. xiv + 476 pp.

Most talk about mental health quickly degenerates into talk about mental "ill" health. Mr. Kaplan's book is no exception. But at least he has done this: he has taken the present accumulation of lore about "psychoses," "neuroses," and "plupathic personalities" and has added to it some information gained from scholarly research.

In the first of the book's four parts the author includes statistical information on the incidence of maladjustment among children, adults, and teachers. For one who rarely reads newspapers or news magazines, the facts may come as a surprise. College students ought to be downright amazed.

Part II contains a good discussion of family relations. Part III briefly involves the reader with the mysteries of psychodynamics, and Part IV confronts him with dynamics in the classroom. Ever since Freud, it has been suggested as a good idea to think in terms of dynamics if possible. Actually it is not very hard to do, since the dynamic mode of human thought, of which demonology is a better known example, is one of the most primitive ways of looking at things.

Mr. Kaplan has done a conscientious job of gleaning the research literature for relevant information. To be sure, a lot of what he has turned up was originally extorted from poor souls who were willing to do almost anything to get an advanced degree. Still, the material probably represents their moments of most disciplined thinking. Research may not be as colorful as the psychiatric phantasies that are so often used to perk up a manuscript, but, from whatever quarter it stems, it tends to have an honest substance to it. Research and speculation, fact and phantasy—the author puts it all together and drones it out with the flattened affect of a professional textbook writer.

No one will deny that the schools need wise suggestions on how to improve mental health and human relations. Nor will anyone discount the hypothetical advantages of a simply written textbook telling education students all they need to know about human nature. Unfortunately this book does not go very far in accomplishing either objective. But considering the current shortages in both wisdom and scholars, one finds himself constrained to defend Kaplan's effort in terms of the well-known quip that ends, ". . . but it's the only poker game in town."

GEORGE A. KELLY

EDDY, EDWARD D., JR.; PARKHURST, MARY LOUISE; AND YAKOVAKIS, JAMES S. *The College Influence on Student Character*. Washington, D. C.: American Council on Education, 1959. xii + 186 pp.

By using the participant-observer approach in their research, the authors have developed an intimate, personalized, and perceptive report. One is reminded of the vivid, here-is-how-it-happened style characteristic of Bruce Catton's writing in *A Stillness at Appomattox*.

Under the auspices of the American Council on Education, this exploratory study was made for the Committee for the Study of Character Development in Education. Edward D. Eddy, vice-president and provost at the University of New Hampshire, served as the director of the study and was assisted by a team of two persons who actively participated in the community living. Twenty college campuses, representing a cross section of institutions of higher education in the United States, were observed.

In this study the development of student character is considered in terms of six elements: level of expectancy, effect of environment, concept of teaching, organization of the curriculum, degree of student responsibility, and the opportunity for religious understanding and practice. There are no data in a statistical sense. The observations, the comments from students, faculty, and administrators, and the sensitive reactions to the sociological and psychological climate of these college programs are perhaps more dynamic and meaningful than an analysis of tables, charts, and correlations.

Time and again the point is emphasized that the college must meet the responsibility for character education. The best approach is to create a standard of academic excellence. If such a standard is achieved by faculty and students, not only the academic life of the student will be affected but also his social relationships, future goals, and general outlook. One wishes that this relationship between academic excellence and influence on student character could have been spelled out more explicitly. The study for the most part, however, is provocative and extremely interesting.

COLLINS W. BURNETT

TEAD, ORDWAY. *The Climate of Learning: a Constructive Attack on Complacency in Higher Education*. New York: Harper and Brothers, 1958. 62 pp.

Tead's small book, an expansion of the first John Dewey Society Lecture, focuses on "the means to achieve the greatest stimulus to learning and only by indirection on the ultimate ends of education" in college (page 12). There can be no question that the author's ultimate aim, borrowed with acknowledgment from Philip E. Jacob of the University of Pennsylvania, is laudable: to provide a distinctive climate of learning in a college. Nor can one object to some of the means he proposes for achieving

this aim: choosing an enthusiastic leader to head the academic program, giving Freshmen the best teachers, encouraging the use of essay examinations, providing outside speakers, putting the athletic program in perspective, and working to establish and maintain the college's "reputation for re-enforcing learning."

But others of his proposals cannot be approved even by those who accept his apology for not dealing with the objectives of the curriculum. "The challenge today," he says, "is to engender excitement for the life of the mind among the *average* students" (page 59). All very well, but in order to do this, Tead must create a kind of academic utopia composed of an enormous crowd of well-adjusted faculty, conscientious administrators, a staff of professionally trained counselors to deal with every imaginable social and mental ailment, another staff of guidance counselors, happy secretaries, and hordes of maintenance men. All these would spend their time, it seems, trying to fit square pegs into round holes—that is, when they are not busy squaring up the round holes.

Tead anticipates ". . . that with larger enrollments curricular offerings will (and should) orient liberal and general subjects more explicitly toward their potential vocational application" (page 44). One cannot blame him for cheapening college education. Our society has done it for him by insisting that the unacademic be given an academic education even if they do not, will not, and cannot understand it. One may doubt, however, that his measures would foster a productive "climate of learning." It is more likely that they would re-enforce mediocrity with a huge staff of *gemütlich* professionals operating under the banner of togetherness.

W. Todd Furniss

Riesman, David; Jacob, Philip E.; and Sanford, Nevitt. *Spotlight on the College Student.* Edited by Margaret L. Habein. Washington, D. C.: American Council on Education, n. d. viii + 90 pp.

Should the aim of institutions of higher education be to produce replicas of the "organization man," and hence to perpetuate the status quo, or should their purpose be to influence basic values and attitudes of college students in the direction of autonomy? If, as most of us believe, the latter is the goal of education, how then can that goal best be accomplished? *Spotlight On The College Student* is not a presentation of definitive answers to these questions. It is, instead, an attempt to stimulate a reflective attitude in the reader and in so doing to create the type of thinking needed in today's educational philosophy.

The book is the result of a panel discussion sponsored and conducted by the Problems and Policies Committee of the American Council on Education (Nathan M. Pusey, chairman). The panel was composed of such well-known names in the field of education as Clark Kerr, president of the University of California; Raymond F. Howes, administrative

assistant of the American Council on Education; and James R. Killian, Jr., special assistant for science and technology to the President of the United States.

The background material for the discussion consisted primarily of a report prepared by Philip E. Jacob of the University of Pennsylvania—"Does Higher Education Influence Student Values?" The book begins with a brief summary of this report. According to Mr. Jacob's investigations, which covered studies made of over one hundred institutions during the last fifteen years, the answer to this question is for the most part negative.

The bulk of this material is analyzed in three short reports by David Riesman, Philip E. Jacob, and Nevitt Sanford. Mr. Sanford introduces his own study of Vassar College into the discussion as an example of an institution that has been partially able to penetrate the "student culture."

In general, the panel agrees with the Jacob report and advances a number of constructive suggestions. These are aimed primarily at introducing more experimental techniques into college education as a method of discovering new and more efficacious approaches to the problems involved. Experimental colleges within universities and more sophisticated testing programs are mentioned as possible ways to arrive at a more heterogeneous student body and, consequently, a less impenetrable "student culture" than that which now prevails on the majority of campuses.

*Spotlight On The College Student* is the kind of provocative report that one would expect from such an illustrious panel. It offers profitable insights into a problem that today, more than ever before, is in desperate need of solution.

LAWRENCE N. MOYER

HUTSON, PERCIVAL W. *The Guidance Function in Education.* New York: Appleton-Century-Crofts, Inc., 1958. xviii + 680 pp.

In the Preface the author states that "in the half century that has elapsed since Frank Parsons articulated the concept of vocational guidance, an astounding body of opinion, of descriptions of practice, and of reports of research have by virtue of publication become common property" (page v). In the nineteen chapters which follow, Mr. Hutson uses a considerable number of these materials. The general topic is viewed from the historical perspective of a review of school practices. Interspersed with each brief analysis of a practice is the author's general statement on the meaning of the practice in terms of guidance.

The first five chapters of the book review the nature of guidance and the cultural context in which guidance practices operate. Within this framework the author emphasizes two principal components of the guidance function: the distributive or informational approach and the adjustive phase or diagnostic and counseling program.

The remaining fourteen chapters emphasize various features of the guidance program: school publications to orient and inform, school offerings, curricular and extracurricular experiences, occupations, the home room, analysis of the individual, testing, diagnosis, counseling, placement, organizing, administering, and evaluating. It is interesting to note the many diverse sources of information used as a basis for discussing these topics. Many polemic arguments may be provoked by a number of the author's statements. The author's assertion that "the arguments for an adequate cumulative record system are unassailable" (page 489) could be a case in point. It is about time that someone in guidance *assails* this approach.

The reader should be alert to the date of any specific reference material used in the book. The Preface states that "looking for value rather than recency, this writer has selected writings which seemed to make contributions to guidance theory and practice without regard to the decade of their appearance" (page vi). However, except for historical purpose, the question may be raised as to the usefulness of a discussion of practices of many years ago; for example, the 1927 New Trier faculty organization for adviser work (page 317) may be of little interest in considering the guidance function in the current decade.

This book is an excellent historical review of guidance practices in education. It will be useful as a summary reference on many problems and issues in school guidance work. However, the challenge of precisely defining and discussing the guidance function in education still remains.

HERMAN J. PETERS

OTTO, ARLEEN C. *New Designs in Homemaking Programs in Junior High Schools.* New York: Bureau of Publications, Teachers College, Columbia University, 1958. xii + 100 pp.

This book is a project report on some junior-high school programs in homemaking education that are "different"; at least they were selected as such by city and state supervisors. It is the type of study which should be encouraged because experimentation in curriculum is vital for progress. However, unless someone compiles the data about such programs, the contribution is local only and does nothing for the improvement of the field as a whole.

The early part of the report reveals the choppy effect caused by too much cutting of the original manuscript. Tables are sometimes weak, and the organization of findings may be questioned. For example, a summary of emerging practices in the homemaking-education program in the thirty-one junior high schools studied (incidentally, it is not until page 58 that the reader learns how many schools were included) follows the detailed description of the ten more unusual programs. This has the effect of giving one the frosting before the cake—in fact, quite apart from the cake.

In making recommendations in Section IV, the author allows her imagination full sway to the envy of advisers who know how difficult it often seems for graduate students to dare explore the possibilities of their data. In this section the strong emphasis on a program which is to be "family-centered" (although the term itself is never mentioned) leads the author to make both unrealistic and helpful proposals. For example, the trend in our culture toward employment of mothers (especially those with teenage children) plus the exigencies of urban living would seem to rule out "the family program planning" (page 76) and the monthly evaluation by family members (page 71) proposed by the author. The proposals for an annual "family trip . . . partially financed by the school" (page 77); "a play arena for children who can enjoy exploring an old car that no longer runs; the club house with a fireman's brass pole to slide down from the second story to the ground floor" (page 86); and school district–owned "houses, apartments, and trailer homes. . . . [for] a child and his family [to live in] for a part of the school year . . . ." (page 81) obviously are financially extravagant. In spite of these unfeasible proposals, the author does make some sound recommendations. She has done home economics a service by compiling and reporting the information relating to the current junior–high school program in this field.

RUTH T. LEHMAN

OLSON, WILLARD C. *Psychological Foundations of the Curriculum.* Paris: Unesco, 1957. 68 pp. (Educational Studies and Documents, No. 26).

The three events which occasioned the writing of this publication suggest its significance: the establishment of an International Advisory Committee on School Curriculum, the commissioning by Unesco of outside experts to make a number of studies which provide background information on matters within the Committee's terms of reference (page 3), and the selection of Willard C. Olson to write a paper designed to serve as the basis for discussion of matters concerning the relation of the curriculum to the psychological needs of children. The reception given to this paper is indicated by a statement in the Preface:

> In view of the fundamental interest of Professor Olson's subject, especially for those Member States of Unesco which are in the process of constructing or reconstructing their national school systems, the Secretariat thought it worth while that this study, originally duplicated in a very limited number of copies, should be made available to a wider audience by publication in the present form.

As is unavoidable in books of this size, the author gives quite limited consideration to several important aspects of his subject. Topics such as theories of learning and special curricular provisions for individuals at the extremes of measurement index ranges have been treated with extreme brevity or omitted entirely. Specific consideration, with some detailed factual information, is given to the following eight topics: "Introduction:

the Child and the Curriculum," "Growth and the Curriculum," "Individual Differences in the Learner and the Curriculum," "The Learning Process and the Curriculum," "Curriculum Materials and Methods," "Social Learnings: the Rôle of the Group," "Evaluation of Curriculum Experiences," and "School Organization and the Curriculum."

Throughout the pamphlet Mr. Olson emphasizes the factors relating to the curriculum of the elementary school rather than to the secondary school. He includes a considerable amount of new research material from the University School of the University of Michigan on organismic age and on the relationships between physical growth, chronological age, reading age, social adjustment, and other factors. The whole work is an excellent summary of the ideas, research, and problems involved in adjusting the curriculum to the characteristics of the pupils. The rather strong emphasis upon factors of physical growth, to be expected in view of the author's distinguished research, is an added strength.

LOWRY W. HARDING

GLASER, ROBERT, *et al. Current Trends in the Description and Analysis of Behavior.* Pittsburgh: University of Pittsburgh Press, 1958. xii + 242 pp. (Current Trends in Psychology Series).

The nine papers contained in this volume are, basically, "progress reports" by psychologists who are either doing research in relatively unexplored facets of psychology or trying to apply new methods and ideas to existing problem areas. Beyond this, the contributions have little in common.

Mr. Glaser describes some attempts to conceptualize the pertinent variables and problems for the study of formal, task-oriented social groups. The thesis of Joseph Zubin's paper is that

> The accumulation of isolated facts in psychopathology is impeding rather than accelerating progress, because no suitable models have been proposed for ordering the data. . . . One of the difficulties with current models is their tendency to regard the premorbid personality as basic to the development of a mental disorder. The possibility that premorbid personality is independent of the eventual mental disorder, or at best only determines the efforts of the patient in adjusting to the illness, has not been sufficiently explored (page 45).

Donald B. Linsley discusses some interesting parallels between recent neurophysiological research and psychological studies of vision. Some new work on the problem of mediational processes in behavior is revealed by Charles N. Cofer.

Perhaps the most truly original research to be reported here is in Vincent Nowlis' paper "On the Use of Drugs in the Analysis of Complex Human Behavior with Emphasis on the Study of Mood." Harold Guetzkow contributed a methodological appraisal of research and theory in social psychology. The growing trend toward the application of psychological concepts and methods to the study of language is represented by

John B. Carroll's paper. Roy M. Hamlin describes the increased application of objective research methods to the study of psychotherapy. The final paper, by the psychoanalyst Thomas M. French, discusses "Guilt, Shame, and Other Reactive Motives."

It is usually stimulating to eavesdrop on creative people when they are in the midst of such endeavors; so it is here. But it is hard to say how much of such a volume will be more than a historical curiosity a few years from now. This, of course, is not too important. If these papers encourage others in similar pioneering attempts, they will have served their purpose.

REED LAWSON

BRUMBAUGH, FLORENCE N., AND ROSHCO, BERNARD. *Your Gifted Child: a Guide for Parents.* New York: Henry Holt and Company, 1959. x + 182 pp.

Miss Brumbaugh has long been the highly capable director of the widely known Hunter College Elementary School, conducted for gifted children. This timely volume is a distillation of her long experience with such children and their parents (the school is noted for the close touch it keeps with parents).

The author writes in a chatty and informal manner. The first three chapters on "Understanding Giftedness" discuss what gifted children are like, the meaning of giftedness, and discovering giftedness. "A Check List: Is Your Child Gifted?" concludes this first part. The next three chapters on "How to Be a Gifted Parent" also conclude with a check list. The third part of the book is a six-chapter treatment of the problems involved in working with the gifted child: the years before school, the preschool child, the gifted child in school, after-school hours, adolescence, and that rare and most special group—the highly gifted.

As might be expected, there is sensible cautioning against either acting upon exaggerated ideas and treatment or failing to recognize, stimulate, and open opportunities for the child. The writer recognizes the values of both enrichment and acceleration. She points out, too, that programs should be co-operative affairs between school and parent in bringing these children to the fullest realization of their potentialities.

SIDNEY L. PRESSEY

PHENIX, PHILLIP H. *Philosophy of Education.* New York: Henry Holt and Company, 1958. xii + 624 pp.

In this book the author has tried to give form and substance to the discipline known as philosophy of education—an action which has been sorely needed. The field of study represented by philosophy of education has had a rather stormy history for the last two decades. Through the efforts of one group, it has been made over into a branch of sociology. Another group has regarded it as giving students a few well-meaning principles which would tie up all the unconnected threads left over from methods and content courses. Still others have seen in the word *philoso-*

*phy* a return to the content of classical philosophy with its emphasis on schools of thought. A larger group has found little or no value in the course as listed simply because its members were teaching whatever philosophy was needed in such courses as principles of elementary education.

Given this state of affairs, Mr. Phenix's solution is simple, direct, and earnest—include all camps under one heading. Unfortunately, the very nature of the solution has played havoc with the essential worth of the book. And the book has much to offer. The range of ideas, topics, and insights is vast, at times too vast. In roaming from a discussion of transportation facilities to an explanation of quantum mechanics, one gets the feeling that editorial scissors could have been used effectively.

When Mr. Phenix writes in his own field, philosophy, rather than attempting to delve into sociology, curriculum, methods, or school finances, he is superb, for he brings to the student a branch of human knowledge which is involved with meaning and relates it to the educational enterprise. In a sense *Philosophy of Education* starts on page 259, for from that point the author stresses philosophy as related to such concepts as freedom, moral values, knowledge, and human nature.

BERNARD MEHL

## Teaching Opportunities in 1959

[*Continued from page 64*]

Employment officials from Ohio, other parts of the United States, and foreign countries visited the Division of Appointments to interview public-school teachers, administrators, and college teachers. During the period February 15 to July 15, 137 employing officials interviewed 1,237 candidates. Many candidates, however, visited schools and colleges for interviews as a result of this office's recommendations to employers.

In 1959 the Division received 21,685 requests for educational personnel. From February 1 to July 15, the staff prepared 11,986 sets of credentials. Of the 476 certificated graduates available, 475 were placed in teaching positions. Included among the 1,398 candidates registered with this office in 1959 were college teachers, public-school and college administrators, and many alumni seeking new public-school locations. The Division of Appointments placed a total of 1,150 candidates during 1959.

# RECENT PUBLICATIONS

OF THE COLLEGE OF EDUCATION

## The Challenge of the Present to Public Education

By VIVIAN T. THAYER. The Boyd H. Bode Memorial Lectures, 1958. vii + 41 pp. 1959. $1.00

The former director of the Ethical Culture Schools in New York City discusses: "Dangers Confronting Education Today" and "The Task of Today's School."

## School-Community Attitude Analysis for Educational Administrators

By ROBERT P. BULLOCK. The School-Community Monograph Series, No. 7. xi + 112 pp. 1959. Lithoprinted. $2.00

The purpose of this study was to develop and test a battery of scales for the use of the school administrator in determining attitudes of the community toward the schools.

## How to Improve the High-School Curriculum

By HAROLD ALBERTY AND ASSOCIATES. iv + 86 pp. 1959. Lithoprinted. $1.00

This is a resource guide for curriculum workers. It deals with such topics as "Creating a Feeling of Need for Improving the Curriculum," "Determining the General Design of the New Curriculum," and "Discovering and Organizing Resource Materials for Instruction."

## An Elementary Survey of Ceramic Processes: with an Emphasis on Clay Products.

In press. 36 pp. 1960. 50 cents.

This is a revised edition of a manual that has proved its usefulness for high-school and college students.

*Orders should be addressed to Publications Office, Ohio State University, 242 W. 18th Avenue, Columbus 10, Ohio.*